

# Ball Rollin' Lab

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MrG

Mr. Gunkelman

Name \_\_\_\_\_

Setup:

Create a ramp with a straight 5-meter track after it. Using masking tape, mark the start , 1-meter, 2-meter, 3-meter, 4-meter, and 5-meter positions. Have a student with a stop watch at each meter mark (will need 5 students).

Top View



Procedure:

1. One student will start the ball along the track. Timers will start their stopwatches when the ball passes the starting line. Timers will stop their individual stopwatches when the ball passes **their** position.
2. Create a data table to record the distance and time.
3. Repeat the experiment two more times, starting the ball at the same spot each time.
  - a. Make sure everyone is doing something different each trial
  - b. i.e. person dropping ball is at meter 2, meter 2 person is at meter 4, etc.

Questions:

1. Calculate the speed for each trial using the TOTAL TIME and TOTAL DISTANCE. Show your work.
2. Using the calculated speeds from question 1, calculate the average speed of your car over the 3 trials.
3. Calculate the speed from the 3 meter mark to the 4 meter mark for each trial. Show your work.
4. Construct a graph for **each** trial. Be sure to title your graphs and label the axis.
5. Do your calculations represent average speed or instantaneous speed?
6. Did your ball have a constant speed or varying speed? How can you tell?